## **IN THE CLAIMS:**

1. (Original) A method for calculating mass scores of calcium deposits, the method comprising:

obtaining patient image data;

identifying calcium plaque in said patient image data, wherein said calcium plaque is associated with a plurality of discrete patient pixel elements and wherein each of said patient pixel elements includes a patient pixel value expressed in Hounsfield units;

converting said patient pixel values into patient density values using a calibration curve equation; and

outputting said patient density values.

- 2. (Original) The method of claim 1 wherein said obtaining patient image data includes obtaining patient image data using a computed tomography imaging system.
  - 3. (Original) The method of claim 1 further comprising: summing said patient density values resulting in a total mass score; and outputting said total mass score.
- 4. (Original) The method of claim 3 wherein said total mass score includes said patient density values for one vessel within a heart.
- 5. (Original) The method of claim 3 wherein said total mass score includes said patient density values for all vessels within a heart.
  - 6. (Original) The method of claim 1 wherein said identifying includes:

manually selecting said discrete patient pixel elements containing calcium plaque; and

highlighting said patient pixel elements that meet a preselected threshold criteria and a preselected connectivity criteria.

- 7. (Original) The method of claim 6 wherein said preselected threshold criteria includes patient pixel elements with patient pixel values measuring 130 Hounsfield units or greater.
- 8. (Original) The method of claim 1 wherein said calibration curve equation is precomputed.
- 9. (Original) The method of claim 1 further comprising precomputing said calibration curve equation, wherein said precomputing includes:

obtaining phantom image data associated with a plurality of discrete phantom pixel elements corresponding to a calcium insert of known density in a phantom, wherein each of said phantom pixel elements includes a phantom pixel value expressed in Hounsfield units;

graphing said phantom image data against said known density of said calcium insert; and developing said calibration curve equation for computing said patient density values in response to said patient pixel values.

- 10. (Original) The method of claim 9 wherein said phantom includes a poly phantom and a calibration phantom.
- 11. (Original) The method of claim 10 wherein said poly phantom approximates a medium sized patient.
- 12. (Original) The method of claim 10 wherein said poly phantom approximates a large sized patient.
- 13. The method of claim 10 wherein said calibration phantom includes three calcium inserts of known density.
- 14. (Original) The method of claim 13 wherein said calcium inserts of known density are 50, 100 and 200 milligrams per cubic centimeter.
- 15. (Original) The method of claim 9 wherein said phantom is an anthropomorphic cardiac phantom body including calcium inserts of known density.

16. (Original) A method for calculating mass scores of calcium deposits, the method comprising:

creating a calibration curve equation, wherein said creating includes:

obtaining phantom image data associated with a plurality of discrete phantom pixel elements corresponding to a calcium insert of known density in a phantom, wherein each of said phantom pixel elements includes a phantom pixel value expressed in Hounsfield units;

graphing said phantom image data against said known density of said calcium insert; and

developing said calibration curve equation for computing said patient density values in response to patient pixel values;

obtaining patient image data;

identifying calcium plaque in said patient image data, wherein said calcium plaque is associated with a plurality of discrete patient pixel elements and wherein each of said patient pixel elements includes a said patient pixel value expressed in Hounsfield units;

converting said patient pixel values into patient density values using said calibration curve equation; and

outputting said patient density values.

17. (Original) A system for calculating mass scores of calcium deposits, the system comprising:

an imaging system;

an object disposed so as to be communicated with said imaging system, wherein said imaging system generates image data responsive to said object; and

a processing device in communication with said imaging system including software to implement the method comprising:

obtaining said image data;

identifying calcium plaque in said image data, wherein said calcium plaque is associated with a plurality of discrete pixel elements and wherein each of said pixel elements includes a pixel value expressed in Hounsfield units;

converting said pixel values into density values using a calibration curve equation; and

outputting said density values.

- 18. (Original) The system of claim 17 wherein said object is a patient.
- 19. (Original) The system of claim 17 wherein said imaging system is a computed tomography imaging system.
- 20. (Original) The system of claim 17 wherein said imaging system and said processing device are physically located in the same geographic location.
- 21. (Original) The system of claim 17 wherein said imaging system and said processing device are physically located in different geographic locations.
- 22. (Original) The system of claim 17 wherein said processing device is in communication with said imaging system over a network.
  - 23. (Original) The system of claim 22 wherein said network is the Internet.
- 24. (Original) A computer program product for calculating mass scores of calcium deposits, the product comprising:
- a storage medium readable by a processing circuit and storing instructions for execution by the processing circuit for:

obtaining patient image data;

identifying calcium plaque in said patient image data, wherein said calcium plaque is associated with a plurality of discrete patient pixel elements and wherein each of said patient pixel elements includes a patient pixel value expressed in Hounsfield units;

converting said patient pixel values into patient density values using a calibration curve equation; and

outputting said patient density values.

25. (Original) A computer program product for calculating mass scores of calcium deposits, the product comprising:

a storage medium readable by a processing circuit and storing instructions for execution by the processing circuit for:

creating a calibration curve equation, wherein said creating includes:

obtaining phantom image data associated with a plurality of discrete phantom pixel elements corresponding to a calcium insert of known density in a phantom, wherein each of said phantom pixel elements includes a phantom pixel value expressed in Hounsfield units;

graphing said phantom image data against said known density of said calcium insert; and

developing said calibration curve equation for computing said patient density values in response to patient pixel values;

obtaining patient image data;

identifying calcium plaque in said patient image data, wherein said calcium plaque is associated with a plurality of discrete patient pixel elements and wherein each of said patient pixel elements includes a said patient pixel value expressed in Hounsfield units;

converting said patient pixel values into patient density values using said calibration curve equation; and

outputting said patient density values.

26. (Newly Added) A method for calculating mass scores of calcium deposits, the method comprising:

obtaining patient image data;

identifying calcium plaque in said patient image data, wherein said calcium plaque is associated with a plurality of discrete patient pixel elements and wherein each of said patient pixel elements includes a patient pixel value expressed in Hounsfield units;

converting said patient pixel values into patient density values using a calibration curve equation, wherein the calibration curve equation is responsive to the size of the patient; and outputting said patient density values.

27. (Newly Added) A method for calculating mass scores of calcium deposits, the method comprising:

obtaining patient image data;

identifying calcium plaque in said patient image data, wherein said calcium plaque is associated with a plurality of discrete patient pixel elements and wherein each of said patient pixel elements includes a patient pixel value expressed in Hounsfield units;

converting said patient pixel values into patient density values using a calibration curve equation, wherein the calibration curve is responsive to scan parameters; and

outputting said patient density values.

28. (Newly Added) A method for calculating mass scores of calcium deposits, the method comprising:

obtaining patient image data;

identifying calcium plaque in said patient image data, wherein said calcium plaque is associated with a plurality of discrete patient pixel elements and wherein each of said patient pixel elements includes a patient pixel value expressed in Hounsfield units;

converting said patient pixel values into patient density values using a calibration curve equation, wherein the calibration curve is responsive to CT number drifts due to system aging; and

outputting said patient density values.